

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-009446**Date Inspected:** 01-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 1500**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2330**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Steve Barnett**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge-K Components**Summary of Items Observed:**

Summary of Items Observed: On this date, Caltrans Quality Assurance Inspector (QA) Clete Henke was present at Oregon Iron Works, Inc. (OIW) in Clackamas, OR for observation of fabrication of the Hinge K Pipe Beams and related activities including in process welding and OIW Quality Control (QC) visual and nondestructive testing. The following observations were recorded:

**OIW Fabrication Shop-Bay 3****Hinge-K Pipe Beam Base Assembly 102A-2:**

a111-2 forging to a110-2 base plate

The QA Inspector observed no production activity on the assembly noted above for the duration of the shift.

During conversation with QC Inspector Steve Barnett, the QA Inspector was informed that QC Magnetic Particle (MT) and Visual (VT) testing was substantially complete at 102A-4 stiffener to forging and stiffener to gusset connections. The QA Inspector subsequently performed 100% Magnetic Particle (MT) and Visual (VT)

verification at completed Partial Joint Penetration (PJP) and fillet connections at 23 random locations in excess of the 10% QA verification requirement. MT and VT verification was completed at various times during the shift at the following joints: W1-01, W1-02, W1-05, W1-06, W1-09, W1-10, W1-13, W1-14, W1-80, W1-81, W1-90, W1-91, W1-114, W1-114, W1-118, W1-120, W1-122, W1-124, W1-126, W1-128, W1-158, W1-160 & W1-162. Please reference TL-6028 report for this date for details.

**Hinge-K Pipe Beam Base Assembly 102A-4:**

a111-4 forging to a110-4 base plate

The QA Inspector intermittently monitored OIW welder Bounheune Savahn (WID S74) during in progress

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Submerged Arc Welding (SAW) at weld joints W2-01 & W2-02 joining b106 gusset to a109 cap plate and a110 base plate respectively. The QA Inspector observed as OIW QC Inspector Steve Barnett performed Magnetic particle Testing (MT) and Visual Inspection (VT) of completed root passes at the weld joints referenced above. Mr. Barnett stated that he had located no rejectable indications. The QA Inspector subsequently performed 100% VT & 50% MT verification at the noted locations finding the root passes to be in general compliance with contract documents. Please reference TL-6028 report for this date for details. The QA Inspector intermittently observed as welder S74 deposited SAW root and fill passes in the flat (1F) position in accordance with approved welding procedure 4020. The QA Inspector noted the OIW welder was maintaining continuous preheat utilizing electric resistance cords and a torch. The QA Inspector observed OIW QC Inspector Steve Barnett regularly monitoring and recording the in process SAW parameters. The QA Inspector also intermittently observed in process welding parameters and determined that the SAW parameters and minimum preheat/interpass temperature appeared to be in general compliance with the contract requirements -- (W1-01: 35 volts, 565 amperes, 432mm/min travel speed ).

OIW Fabrication Shop-Bay 6

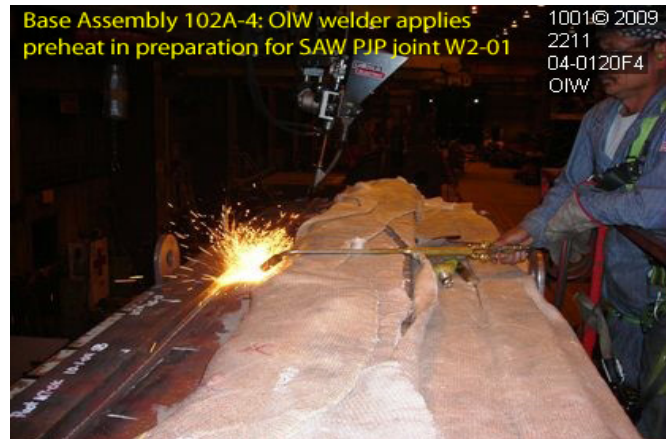
Hinge-K Pipe Beam Fuse Assembly 120A-6:

a124-9 to a124-1

The QA Inspector was informed via email on this date by Caltrans Task Leader Joe Adame that Electro-Slag welding (ESW) activity at the Corrosion Resistant Overlay (CRO) would be paused due to the exhaustion of the ESW electrode supply. Mr. Adame indicated that a further supply had been ordered and was expected on site in approximately 1 to 1 1/2 weeks from this date.

Material, Equipment, and Labor Tracking:

The QA Inspector performed verification of personnel involved with this project and equipment in use. The QA Inspector accounted for 2 OIW production personnel and 2 Quality Control Inspectors present on this date during swing shift.



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## WELDING INSPECTION REPORT

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### Summary of Conversations:

As noted in the body of the report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677 , who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Henke,Clete	Quality Assurance Inspector
<b>Reviewed By:</b>	Adame,Joe	QA Reviewer

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